
Dr. V.MONIHA

(M.Sc., M.Phil., Ph.D)



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Personal Details

Father Name : P.A.Vijaya Raja
 Mother Name : V.Sujatha
 Husband Name : D.Muthukumaran
 Gender : Female
 Marital status : Married
 DOB : 22.10.1992
 Nationality : Indian
 Blood Group : A+

Address

W/o D.Muthukumaran,
 347D, Siranjeevi Nagar,
 Vettai Perumal Kovil Road,
 P.S.K.Nagar Post,
 Rajapalayam-626 108,
 Virudhunagar DT,
 Tamilnadu,
 India.

CURRICULUM VITAE

Objectives

Willing to be a part of dynamic highly qualified professionals and expecting a challenging career in reputed organization where there is recognition for hard work and sincerity.

Academic Profile

Doctor of Philosophy – (Physics- Solid State Ionics) from 2016 to 2020 at A.N.J.A College, sivakasi, Tamilnadu, India.

Master of Philosophy - (Physics) from 2015 to 2016 with distinction (CGPA-7.75) at S.F.R College for women, Sivakasi, Tamilnadu, India.

Master of Science – (Physics) from 2013 to 2015 with distinction (CGPA-7.42) at S.F.R College for women, Sivakasi, Tamilnadu, India.

Bachelor of Science – (Physics) from 2010 to 2013 with distinction (CGPA-7.05) at S.F.R College for women, Sivakasi, Tamilnadu, India.

H.S.C – from 2008-2010 with distinction (75.58%) at N.A.A.M. Hr. Sec. School, Rajapalayam, Tamilnadu, India.

S.S.L.C with distinction (80.6%) at A.K.D.D.R Girls' Hr.Sec school, Rajapalayam, Tamilnadu, India.

Teaching Experience

2023-till now – Assistant Professor, Department of Physics, Rajapalayam Rajus' College, Rajapalayam, Virudhunagar District, Pin-626117, Tamilnadu, India

Research Profile**Google Scholar**

Citations- 818,
h-index-12,
i10- index-12

Scopus

Citations-730,
h-index-12

Web of Science

Citations- 669,
h-index-12

Research Gate

R.I. score- 468.1,
Citations-772,

YouTube Link

<http://youtu.be/3eZkPDYAm8>

http://youtu.be/H3bc80q_6HQ

<http://youtu.be/in9FQsM4Esw>

<http://youtu.be/BtRsR5nLIEI>

<http://youtu.be/gLTFjxKRWS8>

Technical Skills**Hand on experience in**

HIOKI 3532 LCR Hi-Tester
for Impedance measurement

Software Skills

MS Office, Basic in C, Canva
Scientific applications:
MATLAB, MATHCAD, Origin

Office applications:

Windows, DOS

Project Details**Academic Project - under (Ph.D)**

Title: Characterization of bio-polymer electrolytes for
electrochemical devices

Duration: 2016-2020

Academic Project – under (M.Phil)

Title: Exploitation of Nano-Cathode Material for Rechargeable
Lithium Ion Battery

Duration: 1 year

Academic Project – under (M.Sc)

Title: Solving Particle in a Box Problem Using Computation Method

Duration: 1 year

Academic Project – under (B.Sc)

Title: Simple Harmonic Motion and Gear Using Physion

Published in YouTube

Duration: 6 Months

Awards and Achievements

- Yuvakala Bharathi award for FENCING.
- Rajya puraskar award for SCOUTS & GUIDES.
- Yuva bharathi award for BEST SPORTS PERSON.
- Won 3rd prize in NCICP held during the 30th Annual Convention conducted by INDIAN ASSOCIATION OF PHYSICS TEACHERS(IAPT) at Nacharam, Hyderabad

International/National Conference

1. Solving Particle in a Box Problem using Computation Method in 30th Annual Convention conducted by Indian Association of Physics Teachers (IAPT) at Nacharam, Hyderabad. (*Oral Presentation-3rd Prize*)
2. Exploitation of Nano-Cathode Material for Rechargeable Lithium Ion Battery in PRAYAG-2016 conducted by Kumaraguru College of Technology at Coimbatore. (*Oral Presentation*)
3. Studies on La-doped LiNiPO₄ in 15th Asian Conference on Solid State Ionics (ACSSI- 2016) conducted by IIT Patna. (*Poster Presentation*)
4. Synthesis and characterization of Bio-polymer electrolyte based on iota-carrageenan with ammonium thiocyanate and its applications in 2nd International Conference on Science & Engineering of Materials (ICSEM), January 6 - 8, 2018. Sharda University, Greater Noida, India. (*Oral Presentation*)
5. Conductivity studies of bio-polymer electrolyte based on iota-carrageenan with ammonium formate in 2nd International conference on Materials and Technology- Synthesis, Processing and Applications (ICMAT-SPA 2018), February 20-21, 2018. SRNM College, Sattur. (*Poster Presentation*)
6. Development and Characterization of bio-polymer electrolyte iota- carrageenan with ammonium salt for electrochemical application in International conference on materials for energy and environment (ICMEE 2018), February 22-23, 2018. Loyola College, Chennai. (*Poster Presentation*)
7. Electrical properties of polymer electrolyte iota-carrageenan with NH₄HCO₃ for proton battery in National Conference on Energy Materials- 2018 (NCEM-2018), June 28-29, 2018. Manonmaniam Sundaranar University, Tirunelveli. (*Oral Presentation*)
8. Development and Characterization of bio-polymer electrolyte iota- carrageenan with ammonium salt for electrochemical application in International Conference on Nanoscience and Nanotechnology (ICONN 2019), January 28-30, 2019. SRM IST, Chennai. (*Poster Presentation*)

Extra Curricular Activites

- Won medals in National, State & District level TAEKWONDO tournaments.
- Participated as a Technical Official in State & District level TAEKWONDO tournaments. I'm also a Black Belt holder.
- Won medals in Divisional & District level FENCING tournaments.
- Won prizes in District level & Inter – Collegiate VOLLEY BALL tournaments.

Participation

<i>National/International Conferences</i>	<i>Faculty Development Programme</i>	<i>Faculty Induction Programme</i>	<i>Workshop</i>
8	12	2	10

Positions of Academic Responsibility

Coordinator – ERP (December 2024- till date)

Guest Lecture

Acted as Resource Person for the ‘Meet the Scientist’ Programme and delivered a session on ‘Explore the Wonders of Space’ organized by Virudhunagar District Government Model School on 23rd August 2025.

Conference Proceedings (5)

1. R. Manjuladevi, P. Christopher Selvin, S. Selvasekarapandian, R. Shilpa, **V. Moniha**. Lithium ion conducting biopolymer electrolyte based on pectin doped with Lithium nitrate. DAE SOLID STATE PHYSICS SYMPOSIUM 2017; 04/2018, DOI:10.1063/1.5029206.
2. **V. Moniha**, M. Alagar, S. Selvasekarapandian, B. Sundaresan, R. Hemalatha. Electrical properties of polymer electrolyte iota-carrageenan with NH_4HCO_3 for proton battery, Proceedings of the UGC-SAP-DRS –II sponsored National Conference on Energy Materials- 2018 (NCEM-2018), ISBN: 978-93-81402-55-9.
3. R. Hemalatha, M. Alagar, S. Selvasekarapandian, B. Sundaresan, **V. Moniha**. Proton conducting polymer electrolyte based on PVA, amino acid proline and ammonium nitrate, Proceedings of the UGC-SAP-DRS –II sponsored National Conference on Energy Materials- 2018 (NCEM-2018), ISBN: 978-93-81402-55-9.
4. Patil Anitha Bhimarao Ranjana, **V. Moniha**, K. Karpagavalli, B. Sundaresan. Investigation of the electrical properties of SiO_2 filler with PMMA- Lithium Triflate polymer electrolyte, Proceedings of the UGC-SAP-DRS –II sponsored National Conference on Energy Materials- 2018 (NCEM-2018), ISBN: 978-93-81402-55-9.
5. P. Perumal, P. Christopher Selvin, S. Selvasekarapandian, P. Sivaraj, **V. Moniha**. Electrical Impact of lithium chlorate salts on structural and electrical properties of natural polymer electrolytes for lithium polymer batteries, Proceedings of the UGC-SAP-DRS –II sponsored National Conference on Energy Materials- 2018 (NCEM-2018), ISBN: 978-93-81402-55-9.

Research Publications and DOI (18)

1. R. Sudha Periathai, **V.Moniha**, S.Malathi. (2015) Solving Particle in a Box Problem Using Computation Method, *IOSR Journal of Applied Physics*, Volume 7, Issue 2 Ver. III (Mar. - Apr. 2015), PP 29-38.
2. **V. Moniha**, N.Vijaya, T. Jeniffer Rani, M. Premalatha. (2016) Characterization of Nanocathode Material for Rechargeable Lithium Ion Battery, *International Journal of Engineering Research & Technology (IJERT)*, Vol. 5 Issue 09, September-2016.
3. **V. Moniha**, M. Alagar, S. Selvasekarapandian, B. Sundaresan, G. Boopathi. (2018) Conductive bio-polymer electrolyte iota-carrageenan with ammonium nitrate for application in electrochemical devices, *Journal of Non-Crystalline Solids*, 481, 424–434. DOI: 10.1016/j.jnoncrysol.2017.11.027
4. **V. Moniha**, M. Alagar, S. Selvasekarapandian, B. Sundaresan, G. Boopathi. (2018) Synthesis and characterization of Bio-polymer electrolyte based on iota-carrageenan with ammonium thiocyanate and its applications, *Journal of Solid State Electrochemistry*, DOI: 10.1007/s10008-018-4028-6.
5. C. Nusrath Unnisa, S. Chitra, S. Selvasekarapandian, S. Monisha, G. Nirmala Devi, **V. Moniha**. (2018) Development of poly(glycerol suberate) polyester (PGS)- PVA blend polymer electrolytes with NH₄SCN and its application, *Ionics*, DOI: 10.1007/s11581-018-2466-x
6. R. Hemalatha, M. Alagar, S. Selvasekarapandian, B. Sundaresan, **V. Moniha**, G. Boopathi, P. Christopher Selvin. (2018) Preparation and characterization of proton-conducting polymer electrolyte based on PVA, amino acid proline, and NH₄Cl and its applications to electrochemical devices, *Ionics*, DOI: 10.1007/s11581-018-2564-9
7. R. Hemalatha, M. Alagar, S. Selvasekarapandian, B. Sundaresan, **V. Moniha**. (2019) Studies of proton conducting polymer electrolyte based on PVA, amino acid proline and NH₄SCN, *Journal of Science: Advanced Materials and Devices* DOI 10.1016/j.jsamd.2019.01.004.
8. R. Chitra, P. Sathya, S. Selvasekarapandian, S. Monisha, **V. Moniha**, S. Meyvel. (2018) Synthesis and characterization of iota-carrageenan solid biopolymer electrolytes for electrochemical applications, *Ionics*, DOI: 10.1007/s11581-018-2687-z.
9. P. Perumal, P. Christopher Selvin, S. Selvasekarapandian, P. Sivaraj, K. Abhilash, **V. Moniha**, R. Manjula Devi. (2018) Plasticizer incorporated, novel eco-friendly bio-polymer based solid bio-membrane for electrochemical clean energy applications, *Polymer Degradation and Stability* 159, DOI: 10.1016/j.polymdegradstab.2018.11.013

10. T. D. Kishorilal, K. K. Mothilal, **V. Moniha**, S. Selvasekarapandian, S. Monisha. (2018) FT- IR and Conductivity studies of biopolymer electrolyte based on gum arabic with ammonium nitrate, *Journal of Applied Science and Computations*, 5 (6) 212-217.
11. **V. Moniha**, M. Alagar, S. Selvasekarapandian, B. Sundaresan, R. Hemalatha. (2019) Development and Characterization of bio-polymer electrolyte iota- carrageenan with ammonium salt for electrochemical application, *Materials Today; Proceedings* 8:449-455. DOI: 10.1016/j.matpr.2019.02.135.
12. M. Mahalakshmi, S. Selvanayagam, S. Selvasekarapandian, **V. Moniha**, R. Manjuladevi, P. Sangeetha. (2019) Characterization of biopolymer electrolytes based on cellulose acetate with magnesium perchlorate ($\text{Mg}(\text{ClO}_4)_2$) for energy storage devices, *Journal of Science: Advanced Materials and Devices* 4: 276-284. DOI 10.1016/j.jsamd.2019.04.006.
13. S. Kiruthika, M. Malathi, S. Selvasekarapandian, K. Tamilarasan, **V. Moniha**, R. Manjuladevi. (2019) Eco-friendly biopolymer electrolyte, pectin with magnesium nitrate salt, for application in electrochemical devices. *Journal of Solid State Electrochemistry* 23:2181–2193. DOI: 10.1007/s10008-019-04313-6
14. I. Arockia Mary, S. Selvanayagam, S. Selvasekarapandian, S. R. Srikumar, T. Ponraj, **V. Moniha**. (2019) Lithium ion conducting membrane based on K-carrageenan complexed with lithiumbromide and its electrochemical applications, *Ionics* 25:5839–5855. DOI: 10.1007/s11581-019-03150-x
15. M. Premalatha, S. Monisha, S. Selvalakshmi, T. Mathavan, **V. Moniha**. (2022) Investigation of hydrogen ion transport in NH_4HCO_2 doped TSP biopolymer electrolyte for battery applications, *Materials letter* 320, 132369. DOI:10.1016/j.matlet.2022.132369
16. M Premalatha, K Venkatesh, S Monisha, B Archana, S Selvalaskshmi, **V Moniha**, D Vinoth Pandi. (2025) Investigating the effectiveness of NH_4HCO_2 in Prunus dulcis-derived almond gum polysaccharide for proton transport *Ionics* 31 (5), 4359-4371. DOI: 10.1007/s11581-025-06163-x
17. **Moniha V**, Venkatesh K, Premalatha M, Monisha S, Selvalakshmi S, Premkumar R, Alagar M and Sundaresan B. (2025) Impact of Ammonium Triflate on Iota Carrageenan Solid Biopolymer Electrolytes for Electrochemical Devices, *Energy Technology* 13 (5), 1-12. DOI: 10.1002/ente.202401586
18. **V Moniha**, K Venkatesh, M Premalatha, S Monisha, S Selvalakshmi, B Archana, M Alagar, B Sundaresan. (2025) Fabrication of electrochemical cell based on i-carrageenan doped NH_4HCO_2 solid electrolyte, *Solid State Ionics* 419, 116757. DOI: 10.1016/j.ssi.2024.116757